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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,587	04/26/2001	Raymond A. Schoenfelder	7432.122US11	8735

23552 7590 05/09/2003

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EXAMINER

LUM, LEE S

ART UNIT	PAPER NUMBER
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3611

DATE MAILED: 05/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/843,587

Applicant(s)

SCHOENFELDER, RAYMOND A.

Examiner

Ms. Lee S. Lum

Art Unit

3611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed 2/19/03.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 12-26, 28-31, 33, 34, 36-39 and 42-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 12-26, 28-31, 33, 34, 36-39 and 42-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. An Amendment was filed 2/19/03 in which Claims 32, 35, 40 and 41 were also cancelled, in addition to Claims 8-11, 27 and 50-55 which were confirmed as cancelled. The Claims elected, and presented for examination are 1-7, 12-26, 28-31, 33, 34, 36-39 and 42-49.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation in Claim 39, "the input shaft, second shaft, and second longitudinal axis, are coaxial" must be shown or the features canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The disclosure is objected to because in Claim 1, line 6, "first shaft" lacks antecedent basis. Alternately, it is believed that this element should be "first shaft means", in correspondence with this same previously-established element.

Appropriate correction is required.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7, 12-26, 28-31, 33, 34, 36-39 and 42-44 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Re Claims 1, 12, 28 and 36, the spec does not specify "the planetary gears continuously [rotate] about the sun gear when the sun gear is driven by the first shaft means". Re Claims 21 and 34, the spec does not specify "the ring gear [is] fixed relative to the sun gear and planetary gears", nor does it describe what is meant by "fixed relative to", which has more than one interpretation in the art. Therefore, in both cases, the particular language constitutes new matter.

Re Claim 39, the input shaft 127, second shaft 145, and track shaft 157 do not appear to be coaxial. The spec does not describe this configuration (neither do the drawings; fig 7 does not even depict second shaft 145).

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 12-26, 28-31, 33, 34, 36-39, and 42-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re Claims 1, 12, 28 and 36, the spec does not specify "the planetary gears continuously [rotate] about the sun gear when the sun gear is driven by the first shaft means". Re Claims 21 and 34, the spec does not specify "the ring gear [is] fixed relative to the sun gear and planetary gears". Additionally, "fixed relative to" is unclear. Therefore, the particular language in both cases constitutes new matter.

Re Claim 39, the input shaft 127, second shaft 145, and track shaft 157 do not appear to be coaxial. The spec does not describe this configuration (neither do the drawings; fig 7 does not even depict second shaft 145).

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6A. **Claims 1-5, 12-18, 21-25, 28-31, 34, 36-39, 42-45 and 47-49** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bombardier 3698497 in view of Avramidis et al 3884097, and Baxter Jr 5954612.

Re **Claims 1-5 and 12-14 and 28-31**, Bombardier discloses a snowmobile comprising frame 12 with engine 10, forward and rear portions (both inherent), pair of skis 13, endless track 16 supporting the rear portion, and, drive train (inherent) with a differential system (unidentified).

The patent does not disclose the drive train as including a differential comprising a planetary gear system, while Avramidis shows this system 20,

The system including first shaft 24 driven by engine 14,

Three/four planets 152 engaged with sun gear 150,

The sun gear mounted on, and driven by the first shaft, and

the planets rotating about the sun gear when the latter is driven by the first shaft, and,

second shaft 32 driven by the planets, and driving the track.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this differential system, as shown in Avramidis, to provide gear reduction for the vehicle, this configuration being extremely well-known.

The previous patents do not disclose the planets as continuously rotating about the sun gear when the latter is driven by the first shaft, as best understood, while Baxter shows this detail beginning in col 3, lines 9-35, for example. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this detail, as shown in Baxter, to provide one possible means by which gear reduction may be accomplished.

Re **Claims 15-17**, Avramidis shows the planets supported by a pair of ring plates 174b/c, the plates including shafts 174d supporting each planet. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this configuration, as shown in Avradimis, to secure the positions of the planets, this configuration being well-known in the art.

Re **Claims 18 and 44**, Avradimis discloses a reduction ratio as approx. 1:1 and 1:3 in Table G in cols 8-9, but any particular ratio is application-dependent. Any (reasonable) ratio would be clearly viable within the structural parameters of a planetary gear system, as is well-known in the art.

As best understood, re **Claims 21-26 and 34**, Avramidis further discloses the ring gear 154 being fixed relative to the sun gear and planets in col 5, first complete paragraph.

Re **Claims 28-31, 34, 36-38**, Avramidis further shows clutches:

first clutch 28, and second clutch 60, connected by chain 38,
second shaft 32 driven by the planets, and driving track 16.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to include a drivetrain arrangement including clutches, as shown in Avradimis, as a means for gear reduction, this configuration being extremely well-known in the art.

Re **Claims 39, 42, 43 and 45 (39, 42, 43 as best understood)**, Avramidis further shows Sprocket 156 driven by the second shaft, and drives the track via chain 158,

The planetary gear system including

input shaft 32 and second shaft 174a,
engine driveshaft 24 driving input shaft 32,
the second shaft driving track shaft 162,

wherein the input shaft, second shaft, and track shaft are coaxial (as best understood) with the engine driveshaft (fig 2), and,

where there exists gear reduction from the input shaft to the second shaft.

It would have been obvious to one with ordinary skill in the art at the time the invention was made to include the planetary gear system, as shown in Avramidis, as a gear reduction system to drive an endless track, as is well-known in the art.

Avramidis does not show a CVT (continuously variable transmission), while Bombardier shows this element 38+.

Re **Claims 47-49**, Bombardier discloses a CVT comprising elements 38+.

6B. **Claims 6, 7, 19, 20, 26, 33 and 46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Bombardier in view of Avramidis and Baxter, and in further view of Showalter 5833566.

Re **Claim 6**, the previous patents do not disclose a differential, while Showalter shows differential 172 connected with clutch 146 and planetary gear system 80. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this element, as shown in Showalter, to provide a reduction drive mechanism, as is extremely well-known in the art.

Re **Claims 7 and 33**, the previous patents do not show a pair of ring bearings supporting the first shaft, while Showalter shows these elements 68 supporting first shaft 62. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include bearings to support either/both shafts for rotation within the drive train, as shown in Showalter, and as is very well-known in the art.

Re **Claim 19**, Showalter shows first shaft 62 supported by stub shaft 108 and roller bearing 106. It would have been obvious to one with ordinary skill in the art at the time the invention was made to include this arrangement, as shown in Showalter, to secure the shaft for rotation within a planetary gear system. It is noted that this arrangement is functionally equivalent to that described in Avramidis.

Re **Claim 20**, Avramidis shows bearing 192 adjacent the ring gear supporting the second shaft. Although it is not a roller bearing, it is functionally equivalent.

Re **Claim 26**, Avramidis shows bearing 182 associated with the ring gear and drive shaft, supporting the drive shaft and sun gear.

Re **Claim 46**, Avradimis shows gear cage comprising elements 174b/c, for the reasons discussed in the rejection of Claims 15-17 above. Showalter shows a weight bearing protrusion 68 supporting sun gear 90 for the reasons discussed in the rejection of Claim 7 above.

7. RESPONSE TO REMARKS

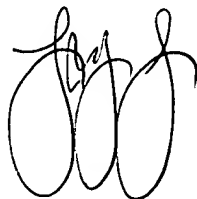
Art rejections have been slightly modified in light of the amendments. Examiner maintains the relevant rejections using Bombadier, Avramidis, and Showalter because they disclose the respective recited elements.


The amendments raise new 112/ 1st and 2nd rejections as provided above.

8. Communication with the Examiner and USPTO

Any inquiry concerning this communication should be directed to Ms. Lum at (703) 305-0232, M-F, 9-6. Our fax numbers are (703) 872-9326, 872-9327 for after-final comms, and 308-2571 for comms having given prior notice to the examiner. Any inquiry of a general nature, or relating to the status of this application/proceeding, should be directed to Customer Assistance at (703) 306-5771.

Ms. Lee S. Lum
Examiner
5/5/03




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